

IN THE CLAIMS:

Please Cancel claim 39

1 (amended). A DNA sequence coding for β -tubulin from Cyathostominae or fragments thereof.

2 (amended). A The DNA ~~as claimed in~~ sequence of claim 1, ~~comprising~~ selected from
the group consisting of:

- a) a polynucleotide having at least 85% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 2;
- b) a polynucleotide having at least 85% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 4;
- c) a polynucleotide having at least 85% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 6;
- d) a polynucleotide having at least 85% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 8; and

e) a polynucleotide having at least 85% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 10.

3 (amended). A The DNA sequence of ~~as claimed in claim 1, comprising~~ selected from the group consisting of:

a) a polynucleotide having at least 95% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 2;

b) a polynucleotide having at least 95% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 4;

c) a polynucleotide having at least 95% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 6;

d) a polynucleotide having at least 95% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 8; and

e) a polynucleotide having at least 95% identity to a polynucleotide coding for an amino acid sequence as set forth in SEQ ID NO. 10.

4 (amended). A The DNA sequence ~~as claimed in one of claims 1 to 3, comprising a~~ sequence as set forth in SEQ ID NO. 1.

5 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 3~~, comprising a sequence as set forth in SEQ ID NO. 3.

6 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 3~~, comprising a sequence as set forth in SEQ ID NO. 5.

7 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 3~~, comprising a sequence as set forth in SEQ ID NO. 7.

8 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 3~~, comprising a sequence as set forth in SEQ ID NO. 9.

9 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 3~~, comprising a sequence as set forth in SEQ ID NO. 11.

10 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1, ~~to 3 and 5 to 9~~, characterized in that it wherein said DNA sequence originates from Cylicocyclus.

11 (amended) A The DNA sequence ~~as claimed in one~~ of claims 1 ~~to 4~~, characterized in that it wherein said DNA sequence originates from Cyathostomum.

12 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1, ~~to 3 and 5 to 10~~, characterized in that it wherein said DNA sequence originates from *Cylicocyclus nassatus*.

13 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 to 4 and 11, characterized in that it wherein said DNA sequence originates from *Cyathostomum coronatum*.

14 (amended). A The DNA sequence ~~as claimed in one~~ of claims 1 to 13, characterized in that it wherein said DNA sequence comprises ~~contains~~ at least one base replacement in codon 200, which ~~leads to the expression of~~ causes said DNA sequence to express a polypeptide having anthelmintic resistance.

15 (amended). A DNA sequence comprising a sequence, ~~characterized in that it is~~ complementary to the DNA sequence of ~~as claimed in one of~~ claims 1 to 14 or fragments thereof.

16 (amended). An RNA sequence comprising a sequence, ~~characterized in that it is~~ complementary to the DNA sequence of ~~as claimed in one of~~ claims 1 to 15.

17 (amended). An expression construct, ~~characterized in that it comprises~~ comprising the DNA sequence ~~as claimed in one~~ of claims 1 to 14 and a sequence linked functionally therewith, which makes possible the expression of the DNA.

18 (amended). A vector, ~~characterized in that it comprises~~ comprising the DNA sequence as claimed in one of claims 1 ~~to 14~~.

19 (amended). A host cell, comprising a DNA sequence selected from the group consisting of the DNA sequence of ~~as claimed in one~~ of claims 1 ~~to 14~~, an expression construct therefor ~~as claimed in claim 17, or~~ and a vectors thereof ~~as claimed in claim 18~~.

20 (amended). A polypeptide encoded by a the DNA sequence of ~~as claimed in one of~~ claims 1 ~~to 14~~ or fragments thereof.

21 (amended). A The polypeptide ~~as claimed in~~ of claim 20, ~~consisting of or~~ comprising an amino acid sequence as set forth in SEQ ID NO. 2.

22 (amended). A The polypeptide ~~as claimed in~~ of claim 20, ~~consisting of or~~ comprising an amino acid sequence as set forth in SEQ ID NO. 4.

23 (amended). A The polypeptide ~~as claimed in~~ of claim 20, ~~consisting of or~~ comprising an amino acid sequence as set forth in SEQ ID NO. 6.

24 (amended). A The polypeptide ~~as claimed in~~ of claim 20, ~~consisting of or~~ comprising an amino acid sequence as set forth in SEQ ID NO. 8.

25 (amended). A ~~The~~ polypeptide ~~as claimed in~~ of claim 20, ~~consisting of or~~ comprising an amino acid sequence as set forth in SEQ ID NO. 10.

26 (amended). A polypeptide encoded by a ~~the~~ DNA sequence of ~~as claimed in~~ claim 14.

27 (amended). A process for the preparation of a polypeptide ~~as claimed in one of claims~~ 20 to 26, comprising the step of expressing ~~expression of the~~ the polypeptide or fragments thereof in a prokaryotic or eukaryotic expression system.

28 (amended). ~~The use of~~ A DNA oligonucleotides ~~which~~ that hybridizes specifically to the DNA sequence ~~as claimed in one of claims 1 to 15, preferably to noncoding DNA sections, for the detection of DNA which~~ wherein said DNA sequence originates from Cyathostominae.

29 (amended). ~~The use of~~ A DNA oligonucleotide ~~which~~ that hybridizes specifically to the DNA sequence ~~as claimed in one of claims 1 to 15 for the detection of~~ wherein said DNA ~~which~~ sequence originates from Cyathostominae ~~and codes for a polypeptide as claimed in claim 26.~~

30 (amended). A procedure for the detection of Cyathostominae, ~~characterized in that~~ comprising the steps of hybridizing the DNA oligonucleotide of ~~as set forth in claim 28 is~~ hybridized to a DNA sequence ~~as claimed in one of claims 1 to 15 and this is amplified~~ amplifying by means of PCR.

31 (amended). A procedure for the detection of Cyathostominae having anthelmintic resistance, ~~characterized in that~~ comprising the steps of hybridizing the DNA oligonucleotide of as set forth in claim 29 is hybridized to a DNA as claimed in one of claims 1 to 15 and this is amplified sequence from a Cyathostominae sample and amplifying by means of PCR.

32 (amended). A DNA oligonucleotide comprising at least one of the sequences as set forth in SEQ ID NO. 12 to SEQ ID NO. 51 or a sequence derived from ~~one of~~ the DNA sequences ~~as claimed in~~ of claims 1 ~~to 15~~.

33 (amended). A diagnostic test kit comprising ~~at least one of~~ the oligonucleotides as ~~claimed in~~ of claim 32 ~~and/or antibodies as claimed in claim 35 or 36.~~

34 (amended). A The diagnostic test kit as ~~claimed in~~ of claim 33, ~~characterized in that the wherein said~~ DNA oligonucleotides ~~are~~ further comprises ~~provided with~~ a detectable label.

35 (amended). An antibody, ~~characterized in that~~ it reacts specifically with an epitope of a the polypeptide as ~~claimed in one of~~ claims 20 ~~to 26~~.

36 (amended). ~~An~~ The antibody as ~~claimed in~~ of claim 35, characterized in that it is monoclonal.

37 (amended). A nematicide comprising the antibody of ~~The use of antibodies as claimed in claim 35 or 36 as nematicides.~~

38 (amended). A vaccine comprising the polypeptide of ~~The use of polypeptides as claimed in one of claims 20 to 26 for the production of vaccines.~~

39 (canceled). A procedure.

40. ~~The~~ A procedure for the identification of substances which modulate the interaction of tubulin, comprising the steps of as claimed in claim 39, characterized in that

a) bringing the test substance ~~is brought~~ into contact with tubulin under those conditions which allow interaction of the tubulin molecules with one another and binding of the test substance to tubulin,

b) detecting the binding of the test substance which has taken place ~~is detected~~ by determining the ability of the tubulin protein molecules to interact with one another, and

c) comparing the ability of the tubulin protein molecules to interact with one another in the presence of a test substance ~~is compared~~ with their ability to interact with one another in the absence of a test substance.

41 (amended). The procedure ~~as claimed in~~ of claim 39 or 40, ~~characterized in that~~
wherein the tubulin ~~used~~ is a polypeptide as claimed in ~~one of~~ claims 20 to 26.

42 (amended). The procedure ~~as claimed in one of claims 39 to 41~~ 40, ~~characterized in~~
~~that,~~ wherein a test system based on cells detects ~~for the detection of~~ a modulation of the
tubulin interaction in the presence of a test substance, ~~a test system based on cells is used.~~

43 (amended). The procedure as claimed in one of claims 39 to 41, characterized in that,
for the detection of a modulation of the tubulin interaction in the presence of a test
substance, a cell-free test system is used.

44 (amended). A substance ~~which~~ that is identified ~~in a~~ by the procedure ~~as claimed in~~
~~one of claims 39 to 4~~ of claim 40.

45 (amended). An agent for the prophylactic or therapeutic treatment of a nematode
attack comprising the ~~The use of a substance as claimed in~~ of claim 44 ~~for the production~~
~~of an agent for the prophylactic or therapeutic treatment of nematode attack.~~

46 (newly added). A diagnostic test kit comprising the antibodies of claim 35.